

DPX-1-2 Diplexer

DEVICE OVERVIEW

General Description

Available in either a connectorized or miniature surface mount package (0.240 inch x 0.150 inch), the DPX-1 is a low cost, high performance diplexer. The unique design offers high pass/low pass signal routing/multiplexing with excellent isolation. Passband insertion loss is less than 1 dB with rejection typically exceeding 25 dB. Besides being ideal for transmitter/receiver applications, the DPX-1 can also be used as an excellent non-reflective low pass (or high pass) filter for systems requiring broadband 50Ω impedance match (such as mixers).



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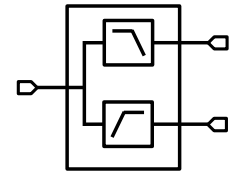
Features

- Low Insertion Loss
- Superior Repeatability
- Low Profile Miniaturized, Reflow Solderable Package Option
- User defined cross over frequencies available

Applications

- Reflectionless Filter Applications
- RF Transceivers

Functional Block Diagram



Part Ordering Options

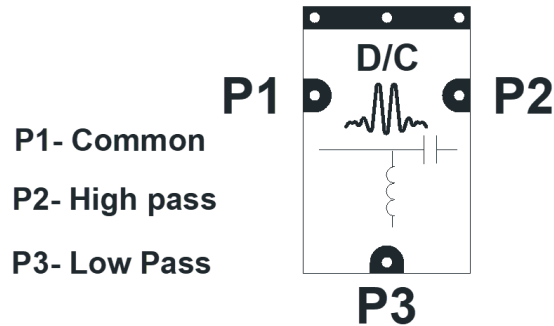
Part Number	Description	Package	Green Status	Product Lifecycle	Export Classification
DPX-1-2	Diplexer	DPX	RoHS REACH	Released	EAR99
<u>DPX-1-1</u>	Diplexer	DPX	RoHS REACH	Released	EAR99

Table Of Contents

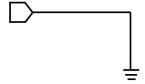
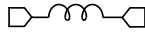
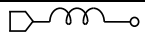

- **Device Overview**
 - General Description
 - Features
 - Applications
 - Functional Block Diagram
- **Port Configuration and Functions**
 - Port Diagram
 - Port Functions
- **Specifications**
 - Package Information
 - Electrical Specifications
 - Typical Performance
- **Mechanical Data**
 - Outline Drawing
- **Footprint Image**

Port Configuration and Functions

Port Diagram



Port Functions

Port	Function	Description	Equivalent Circuit for Package
GND	Ground	DPX package ground is provided through the substrate and ground bond pads.	
Pin 1	Common/Input	Pin 2 is DC open to Pin 1 and short to Pin 3.	
Pin 2	High Pass Filter	Pin 1 is DC open to Pin 2 and Pin 3.	
Pin 3	Low Pass Filter	Pin 3 is DC open to Pin 1 and short to Pin 2.	

Specifications

Package Information

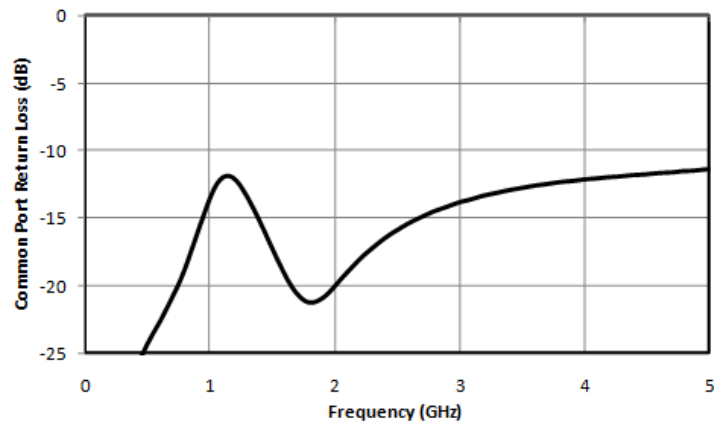
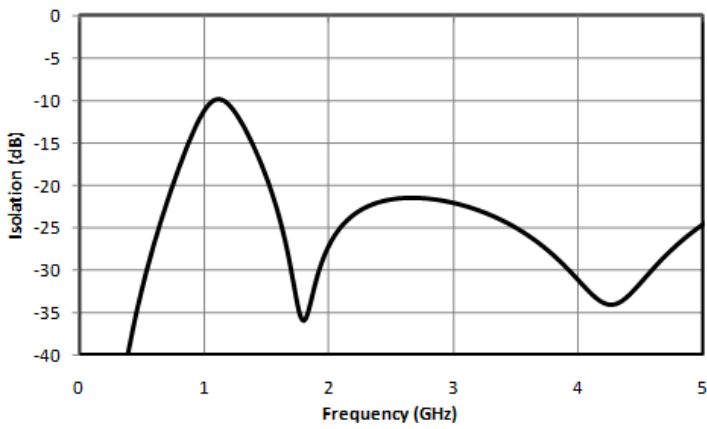
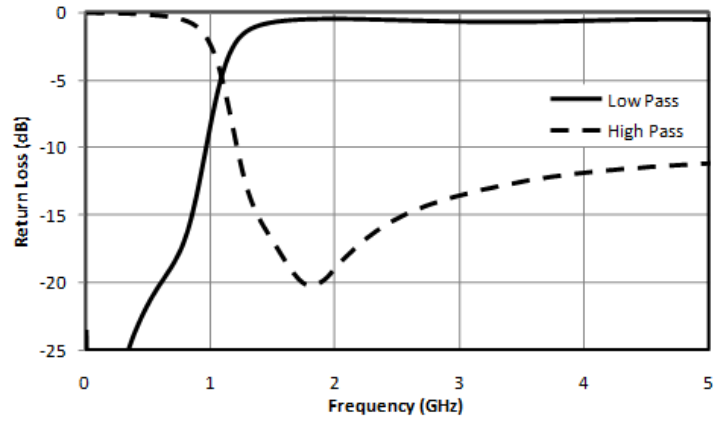
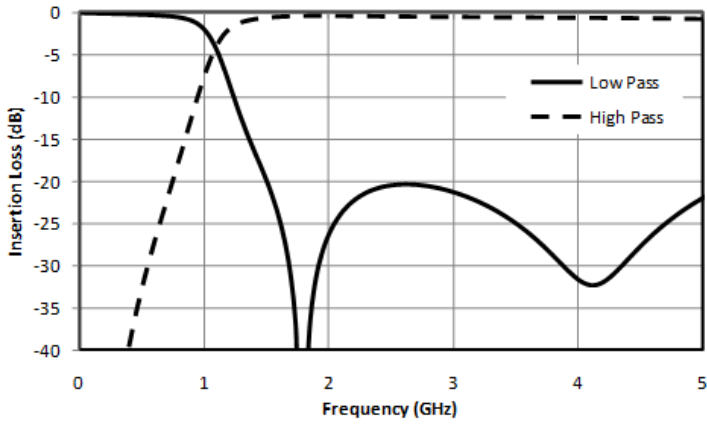
Parameter	Details	Rating
Dimensions	-	3.81 x 6.10 mm
Moisture Sensitivity Level	-	MSL 3

Electrical Specifications

Specifications guaranteed from -55 to +100°C, measured in a 50Ω system.

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
30 dBc Low Pass Rejection Point	-	-	0.85	-	18	-	dB
30 dBc Low Pass Rejection Point	-	-	0.6	24	30	-	dB
30 dBc Low Pass Rejection Point	-	-	0.85	-	18	-	dB
Common Port Return Loss	-	-	0.85	-	20	-	dB
Common Port Return Loss	-	1.4	5	-	15	-	dB
Cross Over Frequency	-	1.1	1.1	-	5	-	%
High Frequency Passband	-	-	-	1.4	-	5	GHz
High Pass Filter, Pass Band Insertion Loss	-	1.4	5	-	0.6	1.2	dB
High Pass Filter, Pass Band Return Loss	-	1.4	5	-	15	-	dB
Isolation	-	-	0.75	14	24	-	dB
Isolation	-	1.5	5	14	24	-	dB
Low Frequency Passband	-	-	-	0	-	0.85	GHz
Low Pass Filter, Pass Band Insertion Loss	-	0	0.85	-	0.5	1	dB
Low Pass Filter, Pass Band Return Loss	-	-	0.85	-	20	-	dB
Low Pass Filter, Stop Band Rejection	-	1.4	3.3	-	18	-	dB
Low Pass Filter, Stop Band Rejection	-	3.3	5	18	22	-	dB
RF Power	-	-	-	-	-	1	W

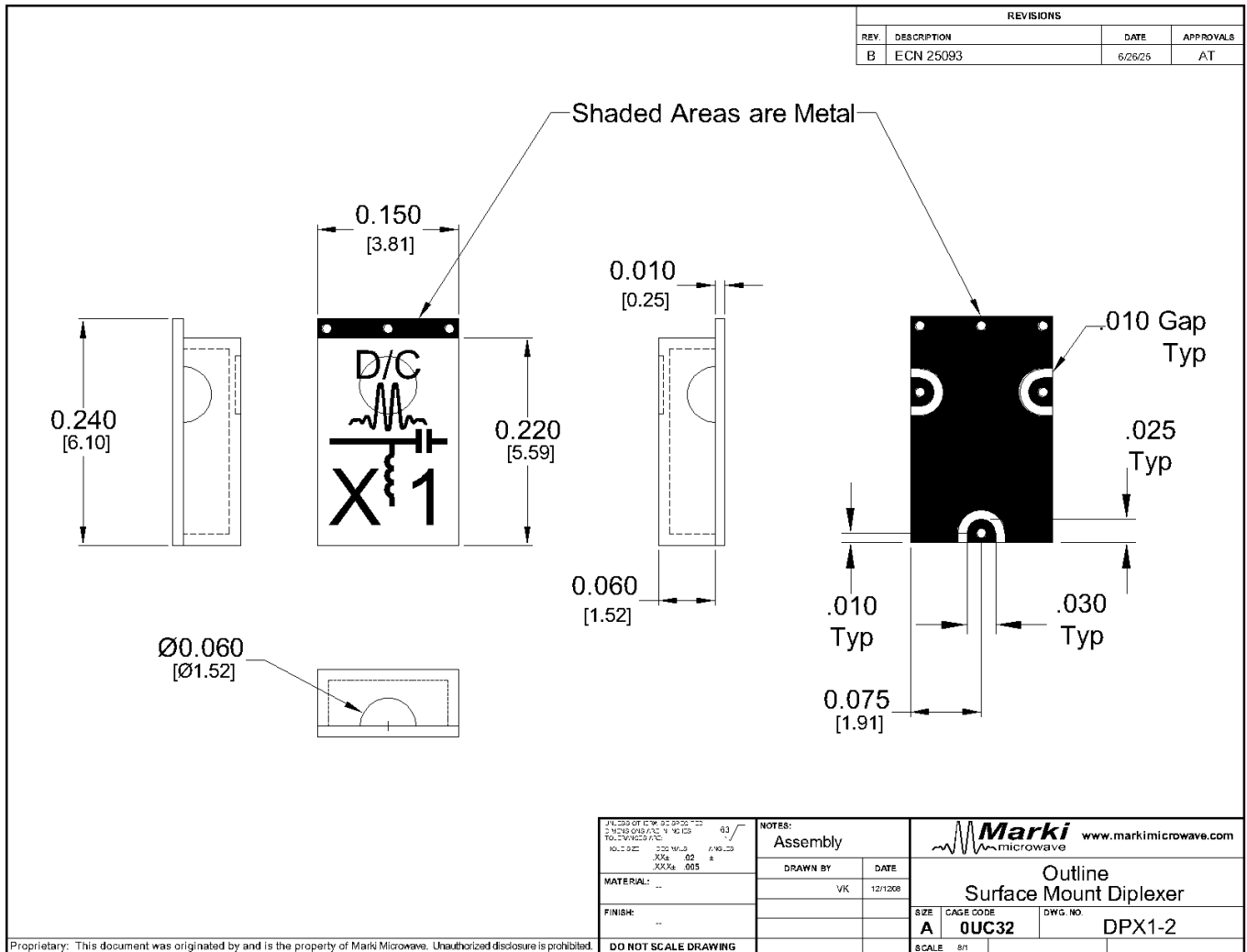
Typical Performance



Mechanical Data

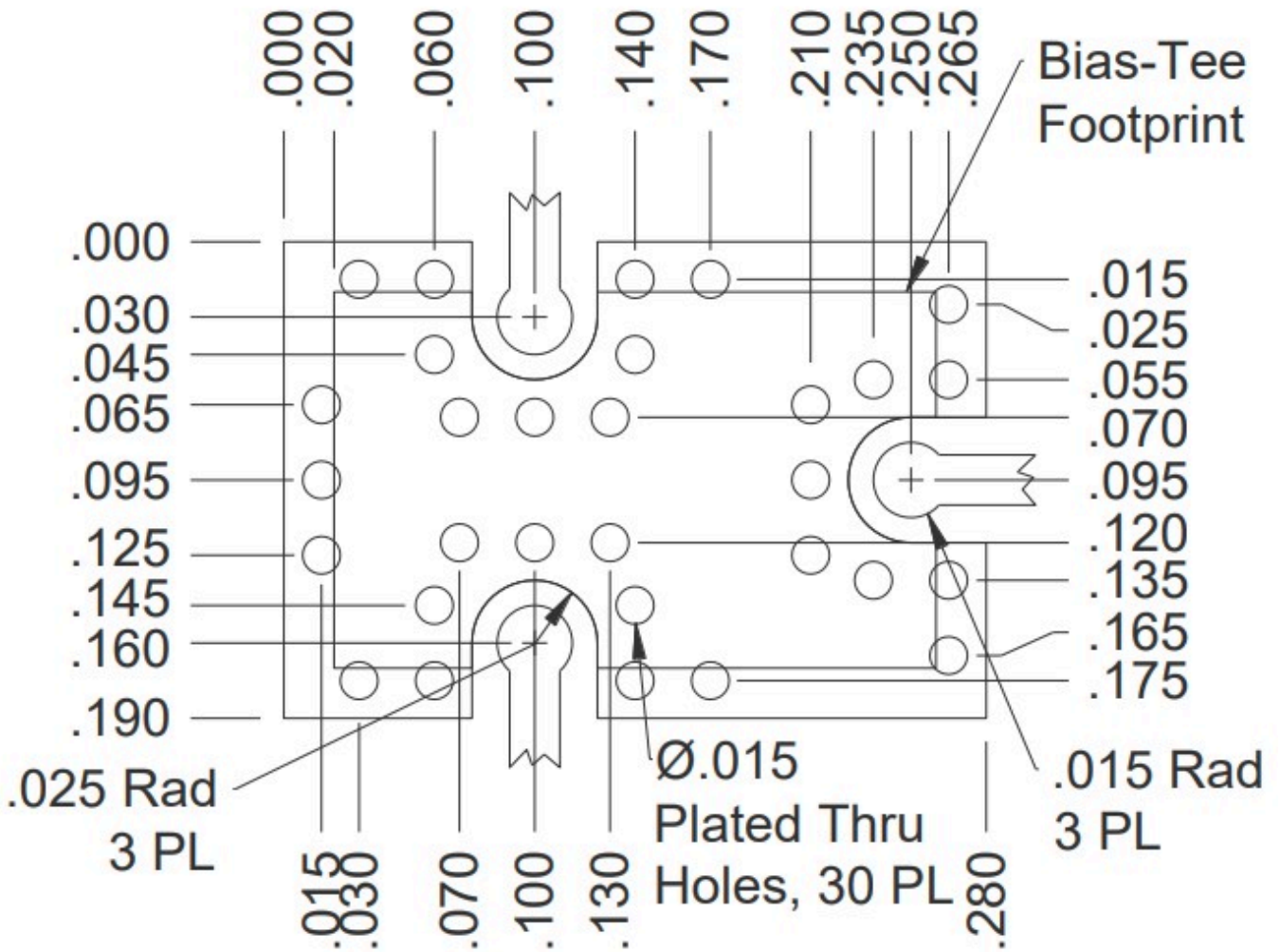
Outline Drawing

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Footprint Image

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